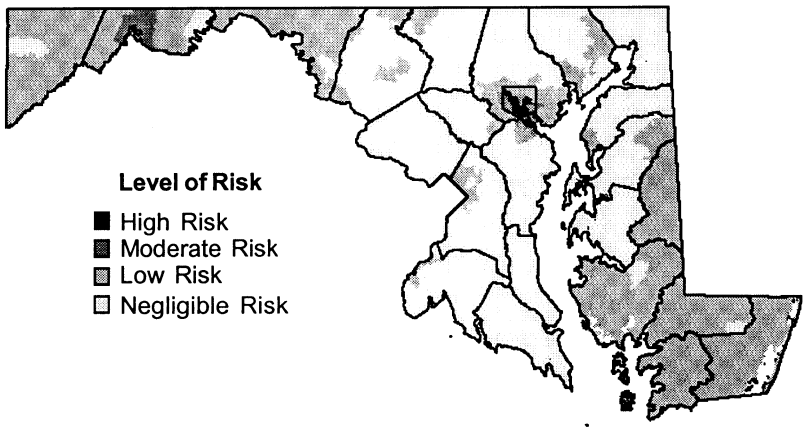
Focus Area 2 - Preventing Childhood Lead Poisoning

Problem

Lead is a biochemical poison that affects a number of organ systems, including the central nervous system. Sustained exposure to lead can cause long lasting neurological damage, learning disabilities, shortened attention span, behavior problems, growth delays in young children and lowered IQ. Children absorb more lead and are more sensitive to its effects than adults. A report released by the Maryland Department of the Environment (MDE) in January of 2000 shows that childhood lead poisoning (defined as a venous or capillary blood lead level greater than or equal to 20 ug/dL) is a serious, but preventable health problem that affected 772 Maryland children in 1998 alone. An additional 4,300 children were diagnosed with elevated blood lead levels (defined as a venous or capillary blood lead level greater than or equal to 10 ug/dL).

Predicted Areas of Risk for Lead Poisoning For Children under 6 Years of Age Based on the Maryland Model (1999)



Source: 1990 U.S. Census Bureau Data and 1994-1996 MDE Lead Registry Data
Note: Census tract risks were converted to zip code risks using weighted proportional averages.

Screening children for lead poisoning will remain an essential activity until the goal of primary prevention is achieved (eliminating hazards so that children are no longer exposed to lead). Diagnosis and subsequent treatment is best accomplished by screening children with a blood lead test. However, few Maryland children are currently being screened. The 2000 MDE report also shows that in 1998, 13.9% of Maryland children under age six were tested for lead poisoning. Screening rates varied by jurisdiction from a high of 31.2% in Baltimore City to a low of 4.1% in St. Mary's County. Approximately 10% (5,068) of Maryland children tested for lead poisoning were found to have elevated blood lead levels.

Major Determinants

Poverty and residence (or child care) in homes with deteriorated or disturbed lead-based paint are major risk factors for lead exposure and poisoning. Ingestion of lead primarily occurs among young children exposed to chipped and peeling lead-based paint on windowsills and porches in homes built before 1978. Children are at greatest risk from birth to age six. According to the 1990 U.S. Census, there are about 529,000 Maryland homes built before 1950 (95% likely to contain lead paint) and 976,000 homes built between 1950 and 1978 (75% likely to contain lead paint). Therefore, more than 1.2 million Maryland homes are potential sources of lead exposure.